

[A] corresponds to the sequence  $(\text{LS})_m\text{-HL-K1-(K2)}_n$   $[(\text{LS})_m\text{-HL-K1-(K2)}_n\text{-(K3)}_o\text{-(K4)}_p]$

wherein [(the numbering of the following amino acids refers to the HF MSP sequences as reported in Fig. 1 and 2, respectively)]:

LS comprises [is an] amino acid [sequence corresponding to] residues [1-3 of HGF or] 1-18 of MSP (SEQ ID NO:20);

HL comprises [is] an amino acid sequence starting between residues 32-70 of the HGF  $\alpha$  chain (SEQ ID NO:18) and ending between residues 96-127 of the identical chain[;] or [it is] an amino acid sequence starting between residues 19-56 of the MSP  $\alpha$  chain (SEQ ID NO:20) and ending between residues 78-109 of the identical chain;

K1 comprises [is] an amino acid sequence starting between residues 97-128 of the HGF  $\alpha$  chain (SEQ ID NO:18) and ending between residues 201-205 of the identical chain[;] or [it is] an amino acid sequence starting between residues 79-110 of the MSP  $\alpha$  chain (SEQ ID NO:20) and ending between residues 186-190 of the identical chain;

K2 comprises [is] an amino acid sequence starting between residues 202-206 of HGF  $\alpha$  chain (SEQ ID NO:18) and ending between residues 283-299 of the identical chain[;] or [it is] an amino acid sequence starting between residues 187-191 of MSP  $\alpha$  chain (SEQ ID NO:20) and ending between residues 268-282 of the identical chain;

[K3 is an amino acid sequence starting between residues 284-300 of HGF  $\alpha$  chain and ending between residues 378-385 of the identical chain; or it is an amino acid sequence starting between residues 269-283 of MSP  $\alpha$  chain and ending between residues 361-369 of the identical chain;

K4 is an amino acid sequence starting between residues 379-386 of HGF  $\alpha$  chain and ending between residues 464-487 of the identical chain; or it is an amino acid sequence starting between residues 362-370 of MSP  $\alpha$  chain and ending between residues 448-481 of the identical chain;]

m[, ] and n[, o, p] are 0 or 1;

[the sum  $n + o + p$  is an integer from 1 to 3 or 0, with the proviso that  $n \geq o \geq p$ ;

B is the sequence  $[(X)_q Y]_r$ , wherein  $X = \text{Gly}$  and  $Y = \text{Ser, or Cys, or Met, or Ala}$ ;

q is an integer from 2 to 8;

r is an integer from 1 to 9;

[C] corresponds to the sequence HL-K1-(K2)<sub>s</sub> [HL-K1-(K2)<sub>s</sub>-(K3)<sub>t</sub>-(K4)<sub>u</sub>]

wherein HL, K1, and K2 [K1-K4] are as defined above,

s is [,t,u are] 0 or 1; [the sum  $s + t + u$  is an integer from 1 to 3 or 0, with the proviso that  $s \geq t \geq u$ ;

D is the sequence W-Z, wherein W is a conventional proteolytic site, Z is any tag sequence useful for the purification and detection of the protein; and y is 0 or 1.

**Claim 2. (Twice Amended)** [Recombinant proteins] The recombinant protein according to claim 1, [in which the] wherein:

[the] HL comprises [domain is a sequence of HGF  $\alpha$  chain ranging from] amino acids 32 to 127 of the HGF  $\alpha$  chain (SEQ ID NO:18), or [a sequence of MPS  $\alpha$  chain ranging from] amino acids 19 to 98 of the MPS  $\alpha$  chain (SEQ ID NO:20);

[the] K1 comprises [domain is a sequence of HGF  $\alpha$  chain ranging from] amino acids 128 to 203 of the HGF  $\alpha$  chain (SEQ ID NO:18), or [a sequence of MPS  $\alpha$  chain ranging from] amino acids 99 to 188 of the MPS  $\alpha$  chain (SEQ ID NO:20); and

[the] K2 comprises [domain is a sequence of HGF  $\alpha$  chain ranging from] amino acids 204 to 294 of the HGF  $\alpha$  chain (SEQ ID NO:18), or [a sequence of MPS  $\alpha$  chain (SEQ ID NO:20) ranging from] amino acids 189 to 274 of the MPS  $\alpha$  chain (SEQ ID NO:20) [; the K3 domain is a sequence of HGF  $\alpha$  chain ranging from amino acids 286 to 383, or a sequence of MPS  $\alpha$  chain ranging from amino acids 275 to 367; the K4 domain is a sequence of HGF  $\alpha$  chain ranging from amino

acids 384 to 487, or a sequence of MPS  $\alpha$  chain ranging from amino acids 368 to 477].

**Claim 3. (Twice Amended)** [Recombinant proteins] The recombinant protein according to claim 1 of formula (II):

$LS_{MSP}-HL_{MSP}-K1_{MSP}-K2_{MSP}-L-HL_{HGF}-K1_{HGF}-K2_{HGF}-D$  (II)

wherein [in which]  $LS_{MSP}$  [is the sequence] comprises amino acids 1-18 of MSP (SEQ ID NO:20),  $HL_{MSP}$  [is the sequence] comprises amino acids 19-56 of MSP (SEQ ID NO:20),  $K1_{MSP}$  [is the sequence] comprises amino acids 99-188 of MSP (SEQ ID NO:20),  $K2_{MSP}$  [is the sequence] comprises amino acids 189-274 of MSP,  $HL_{HGF}$  [is the sequence] comprises amino acids 32-127 of HGF,  $K1_{HGF}$  [is the sequence] comprises amino acids 128-203 of HGF,  $K2_{HGF}$  [is the sequence] comprises amino acids 204-294 of HGF,  $L$  comprises [is] the sequence  $(Gly_4Ser)_3$ ,  $D$  comprises [is] the sequence  $Asp_4-His_6$ .

**Claim 10. (Twice Amended)** [Recombinant proteins of claim 1 for use as] A therapeutic [agents] agent comprising the recombinant protein of claim 1.

**Claim 13. (Twice Amended)** [Pharmaceutical compositions containing] A pharmaceutical composition comprising an effective

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amount of the recombinant [proteins] protein of claim 1 in  
combination with pharmacologically acceptable excipients.